

ABSTRACT OF THE DISCLOSURE

The optical semiconductor apparatus includes, on an n-GaAs substrate, a surface-emitting semiconductor laser device and a photodiode integrated on the periphery of the laser device with an isolation region interposed there between. The laser device is composed of an n-DBR mirror, an active region, and a p-DBR mirror and includes a columnar layered structure with its sidewall covered with an insulating film. The photodiode is formed on the substrate and has a circular layered structure wherein an i-GaAs layer and a p-GaAs layer surrounds the laser device with an isolating region interposed between the i-GaAs and p-GaAs layers and the laser device. The diameter of the photodiode is smaller than the diameter of the optical fiber core optically coupled with the optical semiconductor apparatus. Since the laser device and the photodiode are monolithically integrated, the devices do not require optical alignment, and thus, facilitate optical coupling with an optical fiber.